

15¢

\$5.50 A YEAR

December 13, 1958

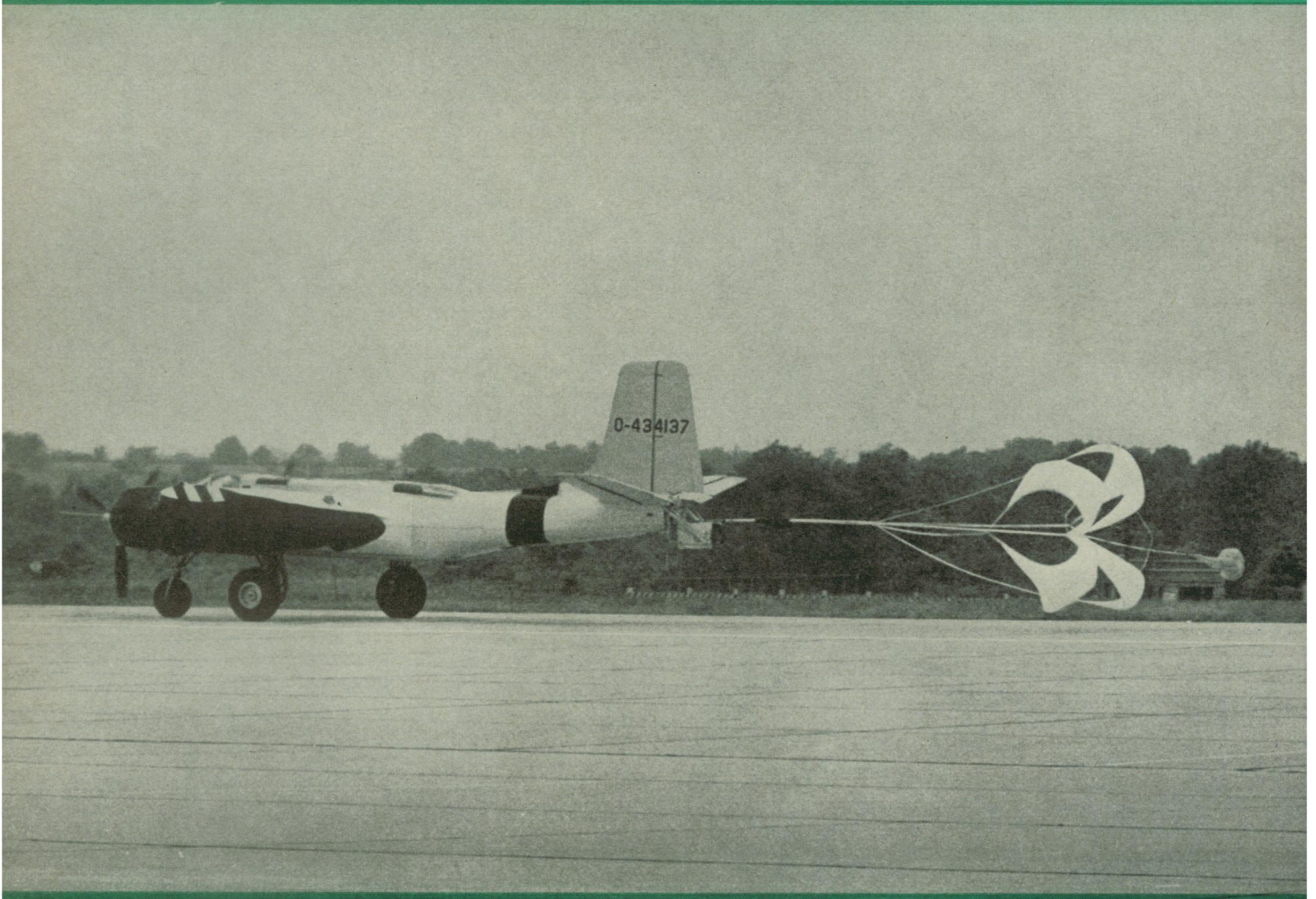
VOL. 74 NO. 24

PAGES 369-384

# SCIENCE NEWS LETTER

®

THE WEEKLY SUMMARY OF CURRENT SCIENCE



Pinwheel 'Chute

See page 381

A SCIENCE SERVICE PUBLICATION

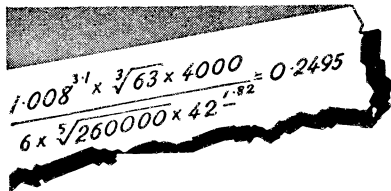
## COSMOTRON

- **MINIATURE ATOM SMASHER**
- **PRODUCES 75,000 VOLTS**
- **ABSOLUTELY SAFE**



In no sense of the word a toy or a gadget. The COSMOTRON is a scientific instrument capable of producing 75,000 volts—makes sparks up to 2" long—yet is absolutely safe because the current is infinitesimal. The science teacher—science lover—or hobbyist can perform experiments to astound students—friends—family. Makes smoke disappear—defy gravity—turns propellers at a distance—transforms atomic energy into light—makes artificial lightning—smashes atoms—demonstrates ionic space ship drive—and many other experiments. Constructed of the finest materials. Will do exactly—for instruction purposes—what generators that cost 3 to 10 times more will do. The perfect device to teach the secrets of atomic physics and electricity. Will hold an audience spellbound as it performs trick after amazing trick. Includes an experiment kit and illustrated experiment manual. Manual explains the "how" and "why." You will invent many new experiments of your own. A fine research tool that will give years of beneficial service to the institution or individual who owns one. In kit form or assembled.

Kit Form ..... \$14.95  
Assembled ..... \$19.95



## A 66-inch Slide-rule for your pocket, \$19.95



Slide Rule Open

The GENIAC® Calculator carries 86-inch spiral scales yet measures only ten inches fully extended and six inches when closed. Four to five figure accuracy can be relied on. It is indispensable to the scientist, research worker and student. Administrative staff and business men will find it of tremendous value for a host of estimating and checking calculations.

The GENIAC® Slide Rule solves multiplication, division, percentage calculation and gives 5 place logarithms.

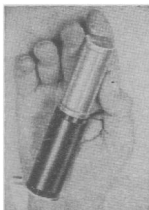
You may use it for 30 days and if you are not satisfied repack and mail it back.

### What our users say:

"It does all you claim—four or five figure accuracy without eyestrain or magnifiers. Half an hour's study is ample for its use."

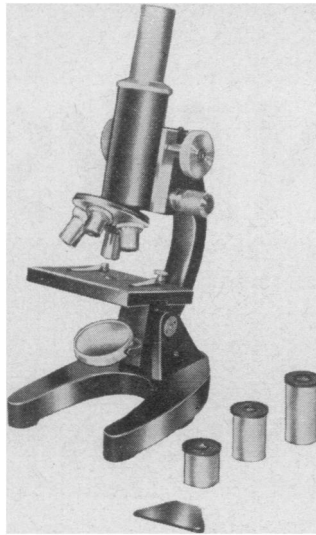
A. E. B.

"I use the GENIAC Calculator for all my slide rule work and need the extra digit which normal slide rules cannot give. I had to get one of my customers a GENIAC Slide Rule last month, after using mine in his office." E. & G. H. Textile Manufacturers.



Slide Rule Closed

All Equipment Protected by 10-Day Return Guarantee & 90-Day Warranty



## 900X "MICROBE HUNTER"

- The only Microscope in its class featuring **GRADE A** optics!
- Power Range 25X, 50X, 75X, 100X, 150X, 200X, 300X, 400X, 600X, 900X
- Full Range Fine Adjustment
- Safety Stop on Coarse Adjustment

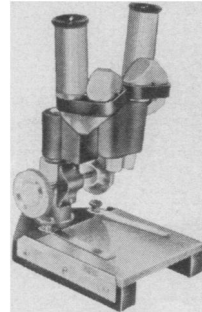
This instrument—made to our rigid design specifications—has wide usage in schools, laboratories and law enforcement agencies. All of the most needed features have been incorporated to meet the requirements for diversified micro-studies. Highly recommended for serious hobbyist desiring exceptional quality at modest cost. Power range from 25X to 900X in 12 possible combinations. Geared rack and pinion coarse focusing. Micro-motion fine focusing of full range—12 complete revolutions. Safety stop prevents over rise. 36mm dual surface (plano/concave) mirror. Fixed square stage, 70mm X 80mm. Rotating 5-hole, disc diaphragm. Three Huygenian eyepieces of 5X, 10X and 15X. Four achromatic objectives of 5X, 10X, 40X and 60X. Oversize base insures stability and protects objectives. Body tilts through 60°—perfectly balanced at any angle. Complete with upright, wooden carrying case.

F-338—List \$69.95 ..... Net \$39.95  
(Add \$1.00 for postage and handling)

## NEW! 30X-50X "STEREO-SCOPES"

- **STEREOSCOPIC Binocular Dissecting Microscope**
- **Wide Field 3-Dimension View**
- **Two Models to Choose From**

**SEMI-PRO "STEREO-SCOPE"**: An especially engineered instrument featuring the stereopsis and wide view field needed in biology, petrography — archeology — mineralogy — criminology — industry — agriculture — etc. Indispensable for inspection of large specimens — small parts — surface features of gross objects — dissection — etc.

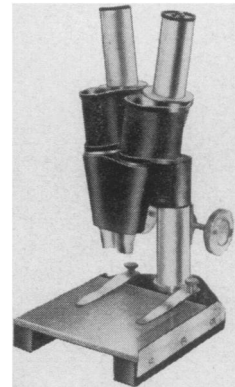


Fixed objective lenses and interchangeable eyepieces for a choice of either 30X or 50X. Prismatic binocular head with full interpupillary adjustment. Ground glass stage 3 3/16" x 3 5/16". Oversize modified horseshoe base. Rack and pinion focusing. Automatic stop prevents over rise. Overall height 9 1/2". Complete with fitted wooden carrying case.

F-337 ..... Net \$29.95  
(Add 83¢ for postage and handling)

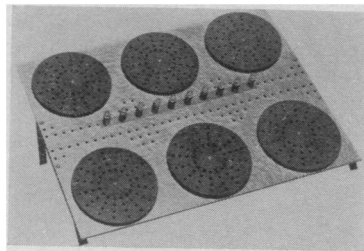
**STUDENT "STEREO-SCOPE"**: A 30X stereoscopic binocular microscope — designed primarily for the student and serious hobbyist. Includes most of the features of our "Semi-Pro" model shown on this page. Fixed objective lenses and non-interchangeable eyepieces. All optics are achromatic. Ground glass stage measures 2 1/2" x 2 13/16". Overall height 7 3/4". Complete with fitted wooden carrying case.

F-335 ..... Net \$19.95  
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THOUSANDS OF PEOPLE FROM THESE GROUPS HAVE BOUGHT AND ENJOYED GENIAC®, THE ELECTRIC BRAIN CONSTRUCTION KIT.

THE MANUALS are a survey of the applications of symbolic logic in reducing various problems to repetitive machine solution. We explain and illustrate with complete wiring diagrams. THE 100 PAGE TEXT gives an overview of the whole computer field.

THE KIT OF MATERIALS contains over 400 parts, switches, all wire and tools necessary for building and designing over 50 different computing game playing, problem solving circuits. YOU benefit from the experience of thousands of users incorporated in the latest manual. WE GUARANTEE ABSOLUTELY that unless you are completely satisfied with your GENIAC® kit, you may ship it back to us within 7 days and we will return your money.

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900X "Microbe Hunter" F338 @ \$39.95 (plus \$1.00 for postage & handling)..... 50X "Stereoscope" F337 @ \$29.95.....  
30X "Stereoscope" F335 @ \$19.95 (Add 83¢ each)..... GENIAC Slide Rule @ \$19.95..... COSMOTRON: Assembled  
@ \$19.95 ..... Kit Form @ \$14.95 ..... GENIAC Electric Brain Construction Kit and Manual @ \$19.95 (East of Miss.)  
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# Special Tool Bargains-Save Up to 50%

## THE EASY WAY TO LIFT-STRETCH-PULL AMERICAN POWER-PULL HOIST PULLER



This 3/4 ton capacity Power-Pull weighs only 6 1/2 lbs. and is precision built of certified materials. Designed for easy, one-man operation and tested to full 50% overload. All steel frame parts are cadmium plated with stress parts made of high tensile manganese bronze. Aluminum alloy ratchet wheel is protected by cable guard. Preformed aircraft cable, 3/16" in diameter, winds on drum positioned to be clear at all times. Automatic let-down feature enables operator to release loads one notch at a time, permitting faster operation in complete safety. Minimum distance between hooks is 21", maximum lift is 6 ft., leverage is 18:1. American Hoist-Puller is indispensable for Shops, Garages, Farms, Construction and Maintenance—anywhere lifting, stretching or pulling is required.

- 6 ft. lift—\$22.95
- 12 ft. lift—\$24.95
- 18 ft. lift—\$26.95

(all plus 75¢ pp. & handling)

## Prices SLASHED 50% on Polyethylene PLASTIC ROLLS Mfg. by Koppers Co., Inc.

Tack It, Staple It, Heat Seal It, Tape It! Cover Outdoor Equipment—Dust, Moisture—



**Proof Protection!**  
WATERPROOF, RESISTANT TO DUST, AIR, GREASE. UNAFFECTED BY HEAT, COLD.

Protects from dust, dirt, moisture, rust, moths, heat, cold, etc. Transparent! Stains wipe off! Lightweight, strong, inexpensive!

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**For OUTDOORS**—Cover boats, sports and fishing equipment, tennis courts, cars. Make children's play tents.

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36" x 100 ft.—.004 gauge—	\$ 6.95
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**EXTRA SPECIAL!**

50" x 100 ft.—.002 gauge—	\$ 9.95
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Add 50¢ to all prices for pp. & hdlg.

## RAY-O-VAC SEE-A-MILE RANGE FLASHLIGHT



Beautifully designed powerful 177" long, 6 cell flash is guaranteed to brilliantly light up even the smallest object a FULL MILE AWAY! If you don't need the full power of 6 cells, merely unscrew the barrel at mid-mark and presto, you have a handy 3 cell flash. This rugged, heavily chrome plated flash has a knurled finish barrel for secure gripping; a full 3" aluminized reflector with special PR 18 bulb; foolproof 3-position switch plus removable end cap with ring hanger.

Free Spare PR 18 bulb \$4.95 PPD. with each flash

## RAY-O-VAC SPORTSMAN CAMPERS LIGHT



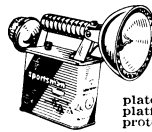
The perfect portable light for Fishing, Boating, Camping, Farm, Car, Cabin, Picnic, Hospitals, Schools! Forget the frightening hazard of fire caused by antiquated, smelly, bothersome gasoline, coal oil or kerosene lamps. The Sportsman is Safe—convenient to carry—gives you all the light you'll ever need! Heavily chromed steel head securely fastens to coil of lantern. Long-life Sportsman metal clad battery. Swivel head of lantern is adjustable to 360 degrees—casts a bright, piercing beam for use as a spotlight.

8.95 ppd.

Complete with battery

## RAY-O-VAC SPORTSMAN LANTERN

with Red Signal Flasher



For all outdoorsmen—hunting, fishing, hiking—ideal for farm, home, car for emergencies. Features powerful sealed beam spotlight with SHOCK ABSORBER mounted in 180 degree adjustable head. Rear of lantern has a shatterproof red flasher which operates in all positions. Dual switches are conveniently located on knurled, sure-grip handle. Entire unit is made of heavy gauge chrome plated steel guaranteed to resist corrosion and rust. Lantern platform completely covers edges of battery for added protection.

Complete with 6 Volt Battery

\$12.40 ppd.

## "Hoppy" Split-Image Transit Revolutionary LEVEL & INCLINE MEASURE

This amazingly accurate instrument indicates level and measures incline down to a fraction of an inch. Makes bubble type or string level obsolete. It not only indicates level, but shows exactly how much correction is needed. Just one person, using the split-image transit and target supplied with it, can perform any levelling, incline-measuring job quickly, accurately, —measures inclines down to the thinness of a dime at 25 feet.

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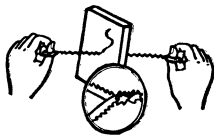
One of our BEST Values!  
2.9 AMP HEAVY DUTY  
1/4" RAM DRILL  
with Jacobs Geared Chuck  
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Reg. \$39.95—Our Price



\$14.95 plus 50¢ pp. & hdlg.

Ask any expert and he'll always say "RAM for Heavy Duty Work." Not just an ordinary 2, 2 1/4 or 2 1/2 amp unit, but a powerful full 2.9 AMP, drill to do every heavy job in home, shop or industry. Built to take years of rough-tough use. Newer, more rugged motor gives 1/2" capacity in hard wood and 1/4" capacity in steel with a full load speed of 1200 R.P.M. Durable, mirror finished, lightweight aluminum housing. Features Universal, series wound AC-DC motor heavy duty multiple thrust ball bearings; automatic release trigger switch with locking pin; 6 ft. 2 conductor, UL approved cord and plug. Standard 115 V. AC-DC. This powerhouse measures 6" in length yet weighs only 3 1/2 lbs. If you've ever needed a drill or find that your present 1/4" job just won't do the things you expect of it, ORDER THIS 2.9 AMP, 1/4" RAM DRILL TODAY! Limited quantities.

Flexible Steel  
**POCKET SAW**  
Cuts in Every Direction



Made of super quality silicon steel, the exclusive interwoven blades cut quickly, easily yet never clog. Ideal for hobbyists, scouts, outdoor sportsmen, gardeners, farmers, campers, etc. To cut wood, formica, rubber, cork, plastics, ice, non-ferrous metals and most anything else... in any direction! Cutting teeth guaranteed not to wear. Rust resistant. Easily rolls up for carrying in plastic pocket-pac. Weighs less than a pack of cigarettes. Imported from France; used by French Military and British Commandos.

SPORTSMAN—20"—.063 dia.— 98¢ ppd.  
WOODSMAN—20"—.095 dia.—\$1.49 ppd.  
COMMANDO—35"—.095 dia.—\$1.98 ppd.

## 20 CAMEL HAIR BRUSHES

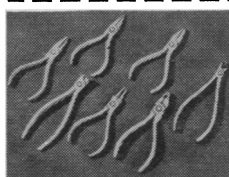
Close-Out—Only 5¢ each

Precision crafted in West Germany. Perfect for artists, touching up around house, cleaning electrical and optical instruments and guns. Sizes range from fine #1 to full #5. Select camel hair firmly set in metal grip to give years of use. Worth many dollars, but ALL 20 yours for only \$1.00 ppd.



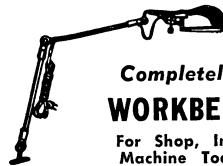
**FINEST QUALITY Imported Precision Pliers 75¢ Ea.**

Flat Nose, Round Nose, Diagonal, End Cutting Nippers, 1 Side Flat—1 Side Round, Snipe Combination for Jewelers, Optical Workers, Hobbyists.



These American instruments are of deep-forged, heat-treated high quality tool steel, fabricated to most exacting specifications. All-over ground, polished to smooth hard surfaces. Smooth working joints with right tension. Jaws meet perfectly to securely hold the most delicate objects in hard-to-reach corners and angles. Each plier is 4" long.

75¢ EACH, ALL 7 FOR \$5.00 ppd.



**Completely Adjustable WORKBENCH LAMP**

For Shop, Inspection Bench, Machine Tool, Laboratories

Swivels and angles in any conceivable direction. Guaranteed to hold your light exactly where you want it because 3 arms (2—12" and 1—10") adjust on 3 ball joints. Easy to mount anywhere. Takes up to 100-watt bulb. Has 8-foot long-wearing neoprene cord and plug. Finished in pale green with reflective white enamel interior reflector. Shade is permanently attached to support arm so it cannot come off or pull bulb socket apart.

\$4.95 plus 50¢ pp. & hdlg.

Now! Shut Out Cold, Wind, Water, Snow . . . Keep Garage Warm and Dry ALL WINTER with . . . FLEXIBLE RUBBER GARAGE DOOR BOTTOM



Don't waste precious heating dollars! Keep your cold, snow, rain, dust and drafts out—keep heat in with this amazing heavy-duty, live rubber weather-stripping. Ingenious front and back lip contour design makes it an automatically perfect closure regardless of shape of floor. Guaranteed never to harden, rot or deteriorate in any fashion. Eliminates forever ear-shattering noises no matter how hard you slam down your overhead garage door. Ideal also for sides of double hung garage doors, barn doors, etc. Can be permanently applied in only 10 minutes—requiring just a hammer—we supply the nails. Complete, simple instructions in pliofilm pack.

9 foot strip—\$2.99 ppd.  
16 foot strip—\$4.98 ppd.

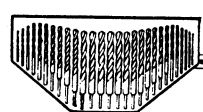
## 60 Pc. Set Wire Gauge CHROME VANADIUM DRILLS

Top quality high test Chrome Vanadium Drills designed for speed drilling through toughest steels, woods, plastic, iron and aluminum. Precision ground, long-lasting cutting edges.

Guaranteed to give years of satisfaction. A full 60 pc. set, Nos. 1 through 60. \$14.95 value NOW ONLY \$5.40 plus 35¢ pp. & hdlg. Same set also without Index Container—Only \$6.65 pp. & hdlg. Also available 61-80 set of high quality drills in plastic kit with marked pocket for each drill—ONLY \$2.50 plus 35¢ pp. & hdlg.

**IMPORTANT** Order Today and Save. Minimum order \$1.00. Send Check or M.O. C.O.D. orders plus fee. Money Back Guarantee protects you against risk.

## Chrome Vanadium 29 Pc. DRILL SET

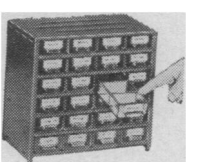


Specially made for speed drilling. In sturdy plastic tool roll. Finest alloy steel drills hardened and precision ground to the sharpest, longest lasting cutting edge obtainable; will easily and uniformly cut through iron and toughest steels. Unconditionally guaranteed for thousands of drillings. Full jobber length. Sizes by 64th from 1/16" to 1/2". There are only a limited quantity of sets available at this low price, so hurry!

Also available with Turned Down Shanks to fit all 1/4" drills. In individual pocket roll.

\$6.49 ppd.  
\$8.95 ppd.

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Stop losing or misplacing small items keep them ever handy visible, clean and safe in Jiffy Cabinets. Serves as handy storage for small things in kitchen, workshop, office, den, garage, sewing or hobby room. Drawers 5 3/4" x 2 3/4" x 1 1/4" are made of crystal clear styrene plastic with deep-in drawers to make 3 compartments plus index labels to fit slots in drawer fronts. Stopper back permits drawer to hang open without spilling. Dust-proof, partitioned, welded solid metal frame, rubber feet, frame punched for easy hanging. In red or grey.

16 Drawer Unit.....\$ 6.00 ppd.  
24 Drawer Unit..... 8.00 ppd.  
32 Drawer Unit..... 11.00 ppd.  
48 Drawer Unit..... 15.75 ppd.

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